

CLAIMS:

1. A sensor comprising a substrate (1) and at least one resonator, said resonator is comprised of an acoustic reflector (2), a first and a second electrode (3,4), a piezoelectric layer (5), and a sensing layer (6) wherein the first and the second electrode (3, 4) are placed on the same side of the piezoelectric layer (5).

5

2. The sensor of claim 1 wherein the first and the second electrode (3, 4) are interdigitated electrodes.

3. The sensor of claim 1 or 2 wherein the sensor comprises a plurality of
10 individually addressable resonators.

4. The sensor of claim 3 wherein the sensing layers (6) of the different resonators comprise different materials.

15